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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,132	04/03/2001	Mark M. Stephenson	00479.00001	8931

22907   7590   10/20/2009
BANNER & WITCOFF, LTD.
1100 13th STREET, N.W.
SUITE 1200
WASHINGTON, DC 20005-4051

EXAMINER
BHATIA, AJAY M

ART UNIT	PAPER NUMBER
2445	

MAIL DATE	DELIVERY MODE
10/20/2009	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte MARK M. STEPHENSON and STEVEN A. WALTERS

_____

Appeal 2008-005233
Application 09/824,132
Technology Center 2400

_____

Decided: October 20, 2009

_____

Before LANCE LEONARD BARRY, THU A. DANG, and CAROLYN D.
THOMAS, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner rejected claims 55-81. The Appellants appeal
therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C.
§ 6(b).

INVENTION

The invention at issue on appeal enables two software applications, each residing on computers behind separate firewalls, to communicate bi-directionally as if they were connected over the same private network. Neither firewall needs to be modified in any way to facilitate this communication. (Spec. 7.)

ILLUSTRATIVE CLAIM

74. A method of communicating between a first computer protected by a first firewall and a second computer protected by a different second firewall via a third intermediate computer, comprising the steps of:

transmitting a request from the second computer to the third intermediate computer through the second firewall to establish a receive channel between the third intermediate computer and the second computer;

receiving from the third intermediate computer a response to the request, the response establishing a receive channel between the third intermediate computer and the second computer that is to be kept open for subsequent transmissions from the third intermediate computer; and

receiving data via the receive channel, wherein the data was transmitted from the first computer to the third intermediate computer through the first firewall via a network connection initiated by the first computer, then transmitted from the third intermediate computer to the second computer via the receive channel.

PRIOR ART

Alden   US 6,101,543   Aug. 8, 2000

Erickson   US 6,412,009 B1   Jun. 25, 2002

REJECTION

Claims 55-81 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden and Erickson.

CLAIMS 55-69, 72-77, AND 80

> When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.

37 C.F.R. § 41.37(c)(1)(vii).

Here, the Appellants argue claims 66 and 74, which are subject to the same ground of rejection, as a group. (App. Br. 11-12). They do not argue the rejection of claims 67-69, 73, and 75-77 separately. We select claim 74 as the sole claim on which to decide the appeal of claims 66-69 and 73-77.

The Appellants also argue claims 72 and 80, which are subject to the same ground of rejection, as a group. (App. Br. 14.) We select claim 80 as

the sole claim on which to decide the appeal of both claims. We consider claims 55 and 57, however, separately.

ISSUE

The Examiner finds "that Alden teaches the establishment of communication of the connection of A->Firewall->B->C->Firewall->D and the reverse D->Firewall->C->B->Firewall->A . . . (Alden, Col. 7 lines 1-19 pair-wise)[.]" (Ans. 10.) The Appellants argue that "nothing in Alden or Erickson discloses or suggests the creation of <u>two return paths</u> requested by <u>two different computers</u> and then transmitting data from the first computer to the second computer <u>over the second return path</u> . . . ." (Appeal Br. 9.) They also argue that "in Alden only one computer initiates the tunnel, and the second endpoint computer is a passive recipient (i.e., it does not 'initiate' the connection with the other computers)." (*Id.* 15.)

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Alden teaches establishing and using connections as recited in claims 55 and 57 or as recited in claim 74 and initiating communication as recited in claim 80.

LAW

"[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d

1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . . ." *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001). "In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). "'A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.'" *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

FINDINGS OF FACT (FFS)

1. Alden's "FIG. 4 and FIG. 5 show an example embodiment of steps performed during establishment of the tunnel connection between Tunnel Server A 46 (node 'A') and Tunnel Server D 62 (node 'D') as shown in FIG. 3." (Col. 7, ll. 19-22.) "The tunnel . . . includes the tunnel end points and any intervening tunnel relays." (*Id.* ll. 24-26.)

2. "During the steps shown in FIG. 4, each of the nodes A, B and C . . . . establish[es] a reliable transport layer (TCP) connection to the next node in the tunnel path . . . ." (*Id.* ll. 33-38.) "As shown for example in FIG. 4, at step 70 node A establishes a reliable transport layer connection with

node B." (*Id.* ll. 42-43.) "Node B establishes a reliable transport layer connection with the next node in the tunnel path, for example node C." (*Id.* ll. 56-57.) "[N]ode C establishes a reliable transport layer connection with the next node along the tunnel path, in this case node D." (Col. 8, ll. 12-14.)

3. "The tunnel connection between Tunnel Server A 46 and Tunnel Server D 62 is composed of reliable, pair-wise transport layer connections between Tunnel Server A 46 (node 'A'), Tunnel Relay B 54 (node 'B'), Tunnel Relay C 56 (node 'C'), and Tunnel Server D 62 (node 'D')." (*Id.* col. 7, ll. 7-11.)

ANALYSIS

We agree with the Appellants (Appeal Br. 9-11) that claims 55 and 57 require creating two return paths requested by two different computers and then transmitting data from one of the computers to the other computer via one of the return paths. Giving it the broadest, reasonable construction, however, claim 74 merely requires creating at least one return path requested by a first computer and then transmitting data from a second computer to the first computer via the return path.

Giving claim 78 its broadest, reasonable construction, moreover, the claim requires that either of two end point computers can initiate communication.

Alden describes a tunnel having node A and node D as end points. (FF 1.) Because nodes A and D are each a server computer (*id.*), these respectively constitute a first computer and a second computer.

During establishment of the tunnel, node A creates a TCP connection with an intermediate node, viz., node B (FF 2). The TCP connection comprises a pair of transport layer connections. (FF 3.) We agree with the Examiner's aforementioned finding that one of the pair of connections constitutes a forward path, and the other constitutes a return path.

The purpose of establishing the tunnel between nodes A and D is to enable the nodes to exchange data therebetween. At some point during use of the tunnel, therefore, we find that node D, i.e., the second computer, transmits data to node A, i.e., the first computer via the tunnel. In traversing the tunnel, the transmitted data cross the return path from node B to node A. Therefore, we agree with the Examiner's finding that Alden establishes and uses connections as recited in claim 74 and claims 66-69, 73, and 75-77, which fall therewith.

Once the tunnel is established, we find that either node A or node D can initiate communications by sending data via the tunnel. Therefore, we agree with the Examiner's finding that Alden initiates communication as recited in claim 80 and claim 72, which falls therewith.

Because node C of Alden creates a TCP connection with node D (FF 2), however, we disagree with the Examiner that the second computer,

i.e., node D, creates a return path. Therefore, we also disagree with his finding that Alden establishes and uses connections as recited in claims 55 and 57 or in claims 56 and 58-65, which depend therefrom. Erickson does not cure the deficiency of Alden.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown error in the Examiner's finding that Alden teaches establishing and using connections as recited in claims 55 and 57 but have not shown error in his finding that the reference teaches establishing and using connections as recited in claim 74 or initiating communication as recited in claim 80.

CLAIMS 70, 71, 78, AND 79

The Examiner makes the following findings.

> Alden-Erickson teaches . . . in the intermediate server computer, decrypting encrypted information received from the first computer using encryption keys shared between the first computer and the intermediate computer, and then re-encrypting the received information using encryption keys shared between the intermediate computer and the second computer. (Alden, Col. 8 lines 45-67. keys)[.]"

(Ans. 5.) The Appellants argue that "the word 'encryption' appears nowhere in Erickson, and Alden only discloses encryption between tunnel endpoints, not encryption between the intermediate computer and the second computer." (App. Br. 15.)

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ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Alden teaches an intermediate server computer decrypting data received from the first computer and re-encrypting the data using a different key to send to the second computer as recited in claim 70 and his finding that the reference uses a key shared by the intermediate computer and the second computer to encrypt data sent by the first computer as recited in claim 78.

FINDING OF FACT

4. The part of Alden cited by the Examiner discloses in pertinent part that "the tunnel end points . . . exchange sufficient key exchange material to agree upon a set of session parameters for use during the tunnel connection such as cryptographic keys, key durations, and choice of encryption/ decryption algorithms." (Col. 8, ll. 53-57.)

ANALYSIS

Alden discloses that the end points i.e., nodes A and D, of its tunnel exchange key material to agree upon a set of session parameters for use during the tunnel connection such as cryptographic keys. (FF 4.) Therefore, we agree with the Appellants that "Alden's improved system relies solely on session keys between two network endpoints . . . there is no decryption and re-encryption by an intermediate computer." (Reply Br. 6.) Erickson does not cure the deficiency of Alden.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown error in the Examiner's finding that Alden teaches an intermediate server computer decrypting data received from the first computer and re-encrypting the data using a different key to send to the second computer as recited in claim 70 and his finding that the reference uses a key shared by the intermediate computer and the second computer to encrypt data sent by the first computer as recited in claim 78.

DECISION

We reverse the rejection of claims 55-65, 70, 71, 78, and 79 but affirm the rejection of claims 66-69, 72-77, and 80.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v).

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BANNER & WITCOFF, LTD.
1100 13th STREET, N.W.
SUITE 1200
WASHINGTON DC 20005-4051